

WHAT IS CLAIMED IS

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1. A seek control method for carrying out a seek to a target position on a recording medium by moving a light beam spot which is irradiated on the recording medium, said recording medium having a 10 first region in which information recording is made as variations in optical or magneto-optical properties and a second region in which information recording is made as variations in geometrical configuration, said first and second regions being 15 provided in different areas on a recording surface of the recording medium, said seek control method comprising the step of:

20 (a) carrying out a control so that a seek operation from a seek start position within the first region to a seek target position within the second region and a seek operation from a seek start position within the second region to a seek target position within the first region differ.

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2. The seek control method as claimed in claim 1, further comprising the step of:
30 (b) judging a type of the recording medium, said step (a) carrying out a different seek operation when said step (b) judges that the recording medium is a high-density recording medium.

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3. The seek control method as claimed in
claim 1, wherein said step (a) carries out a first
seek operation from a seek start position to a first
end position within the first region and in a
5 vicinity of the second region when the seek start
position is within the first region and a seek
target position is within the second region, and
carries out a second seek from the first end
position to a second end position by regarding the
10 second end position as the seek target position.

15 4. The seek control method as claimed in
claim 1, wherein said step (a) carries out a seek
from a seek start position to an end position in one
seek operation by regarding the end position as a
seek target position when the seek start position is
20 within the second region and the seek target
position is within the first region.

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5. A seek control method for carrying out
a seek to a target position on a recording medium by
moving a light beam spot which is irradiated on the
recording medium, said recording medium having a
30 first region in which information recording is made
as variations in optical or magneto-optical
properties and a second region in which information
recording is made as variations in geometrical
configuration, said first and second regions being
35 provided in different areas on a recording surface
of the recording medium, said seek control method
comprising the steps of:

(a) carrying out a control to carry out a first seek operation from a seek start position to a first end position within the first region and in a vicinity of the second region when the seek start 5 position is within the first region and a seek target position is within the second region, and to carry out a second seek from the first end position to a second end position by regarding the second end position as the seek target position;

10 (b) setting control parameters to those for the first region during said first seek operation, and setting the control parameters to those for the second region during said second seek operation.

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6. The seek control method as claimed in claim 5, wherein the control parameters include at 20 least one of a gain of a tracking error signal, an off-track detection slice, and a power of the light beam.

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7. The seek control method as claimed in claim 5, wherein said step (a) carries out a seek from a seek start position to an end position in one 30 seek operation by regarding the end position as a seek target position when the seek start position is within the second region and the seek target position is within the first region, and said step (b) sets the control parameters to those for the 35 first region during said one seek operation.

8. The seek control method as claimed in claim 5, further comprising the step of:

(c) judging whether a present position is within the first region or the second region based
5 on an amplitude of a tracking error signal when a servo abnormality is detected in an on-track state, setting a gain of the tracking error signal to that for the first region if the present position is within the first region, and setting the gain of the
10 tracking error signal to that for the second region if the present position is within the second region.

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9. The seek control method as claimed in claim 5, wherein said step (b) sets a gain of a tracking error signal to that for the first region after a read within the second region ends.

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10. The seek control method as claimed in claim 1, further comprising the step of:

(b) judging whether a present position is within the first region or the second region based on an amplitude of a tracking error signal when a servo abnormality is detected in an on-track state,
30 setting a gain of the tracking error signal to that for the first region if the present position is within the first region, and setting the gain of the tracking error signal to that for the second region if the present position is within the second region.

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11. The seek control method as claimed in
claim 1, further comprising the step of:

(b) setting a gain of a tracking error signal
to that for the first region after a read within the
5 second region ends.

10 12. A storage apparatus for carrying out
a seek to a target position on a recording medium by
moving a light beam spot which is irradiated on the
recording medium, said recording medium having a
first region in which information recording is made
15 as variations in optical or magneto-optical
properties and a second region in which information
recording is made as variations in geometrical
configuration, said first and second regions being
provided in different areas on a recording surface
20 of the recording medium, said storage apparatus
comprising:

a control section carrying out a control so
that a seek operation from a seek start position
within the first region to a seek target position
25 within the second region and a seek operation from a
seek start position within the second region to a
seek target position within the first region differ.

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13. The storage apparatus as claimed in
claim 12, further comprising:

35 a judging section judging a type of the
recording medium,
said control section carrying out a different
seek operation when said judging section judges that

the recording medium is a high-density recording medium.

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14. The storage apparatus as claimed in
claim 12, wherein said control section carries out a
first seek operation from a seek start position to a
10 first end position within the first region and in a
vicinity of the second region when the seek start
position is within the first region and a seek
target position is within the second region, and
carries out a second seek from the first end
15 position to a second end position by regarding the
second end position as the seek target position.

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15. The storage apparatus as claimed in
claim 12, wherein said control section carries out a
seek from a seek start position to an end position
in one seek operation by regarding the end position
25 as a seek target position when the seek start
position is within the second region and the seek
target position is within the first region.

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16. The storage apparatus as claimed in
claim 14, further comprising:
a setting section setting control parameters to
35 those for the first region during the first seek
operation and setting the control parameters to
those for the second region during the second seek

operation.

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17. The storage apparatus as claimed in
claim 16, wherein the control parameters include at
least one of a gain of a tracking error signal, an
off-track detection slice, and a power of the light
beam.

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15 18. The storage apparatus as claimed in
claim 12, further comprising:

20 a setting section judging whether a present
position is within the first region or the second
region based on an amplitude of a tracking error
signal when a servo abnormality is detected in an
on-track state, setting a gain of the tracking error
signal to that for the first region if the present
position is within the first region, and setting the
gain of the tracking error signal to that for the
25 second region if the present position is within the
second region.

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19. The storage apparatus as claimed in
claim 14, wherein the first end position is within
the first region and separated by at least one or
more tracks from a boundary of the first region and
35 the second region, and is closer to the second
region than the seek start position.

20. The storage apparatus as claimed in
claim 14, further comprising:

a section carrying out a seek to an arbitrary
track within the first region by switching and
5 setting a gain of a tracking error signal to that
for the first region when a read within the second
region ends.

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